Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(Currently amended)** A method of forming a ceramic body with nanostructures on at least one surface thereof, the method comprising:

(a) compressing ceramic particulate at a pressure sufficient to form a solid body;

(b) sintering the solid body at a temperature and for a period sufficient to bond the particulate in the solid body into one or more ceramic crystals;

(c) exposing the solid body to a reducing environment at a temperature substantially greater than 105 degrees Fahrenheit and for a period sufficient to form nanostructures on at least a portion of the exterior surface of the solid body.

2. **(Original)** The method in accordance with claim 1, wherein the ceramic particulate further comprises titania.

3. **(Original)** The method in accordance with claim 1, wherein the reducing environment further comprises a hydrogen-containing gas flowing over the solid body at a sufficient gas flow rate to form said nanostructures.

4. **(Original)** The method in accordance with claim 1, wherein said pressure is greater than about 0 MPa.

5. **(Original)** The method in accordance with claim 1, wherein said pressure is about 400 MPa.

6. **(Original)** The method in accordance with claim 1, wherein the step of sintering is carried out at a temperature of less than 1,400 degrees Celsius.

7. **(Original)** The method in accordance with claim 6, wherein the step of sintering is carried out at a temperature of about 1,200 degrees Celsius.

8. **(Original)** The method in accordance with claim 7, wherein the step of sintering is carried out for about 6 hours.

9. **(Original)** The method in accordance with claim 3, wherein the hydrogen-containing gas further comprises a majority inert gas and a minority hydrogen-containing gas.

10. **(Original)** The method in accordance with claim 9, wherein the hydrogen-containing gas is hydrogen.

11. **(Original)** The method in accordance with claim 9, wherein the hydrogen-containing gas is water.

12. **(Currently amended)** The method in accordance with claim 9, wherein the step of ~~heat treating~~exposing is carried out at a temperature of about 700 degrees Celsius.

13. **(Currently amended)** The method in accordance with claim 12, wherein the step of ~~heat treating~~exposing is carried out for a period of about 8 hours.

14. **(Currently amended)** The method in accordance with claim ~~1~~3, wherein the step of ~~heat treating~~exposing is carried out at a hydrogen-containing gas flow rate between about 100 and about 500 milliliters per minute.

15. **(Original)** The method in accordance with claim 14, wherein the flow rate is at least about 500 milliliters per minute.

16. **(Original)** The method in accordance with claim 1, wherein the nanostructures formed further comprise nanofibers.

17. **(Withdrawn)** The ceramic body produced according to the process of claim 1.

18. **(Currently amended)** A method of forming a metal oxide body with nanostructures on at least one surface thereof, the method comprising:

(a) compressing metal oxide particulate at a pressure greater than 0 MPa to form a solid body;

(b) sintering the solid body in air at a temperature of less than 1,400 degrees Celsius; and then

(c) heat treating the solid body in a gas mixture containing a majority of an inert gas and a minority of a hydrogen-containing gas at a temperature substantially greater than 105 degrees Fahrenheit and at a gas flow rate~~, a temperature~~ and for a period sufficient to cause nanostructures to form on at least a portion of the exterior surface of the solid body.

19. **(Original)** The method in accordance with claim 18, wherein the nanostructures formed further comprise nanofibers.

20. **(Original)** The method in accordance with claim 18, wherein said pressure is about 400 MPa.

21. **(Original)** The method in accordance with claim 18, wherein the step of sintering is carried out at a temperature of about 1,200 degrees Celsius.

22. **(Original)** The method in accordance with claim 21, wherein the step of sintering is carried out for about 6 hours.

23. **(Original)** The method in accordance with claim 18, wherein the inert gas is nitrogen.

24. **(Original)** The method in accordance with claim 18, wherein the hydrogen-containing gas is hydrogen.

25. **(Original)** The method in accordance with claim 18, wherein the hydrogen-containing gas is water.

26. **(Original)** The method in accordance with claim 18, wherein said gas flow rate is between about 100 and about 500 milliliters per minute.

27. **(Original)** The method in accordance with claim 26, wherein the gas flow rate is at least about 500 milliliters per minute.

28. **(Original)** The method in accordance with claim 18, wherein the step of heat treating is carried out at a temperature of about 700 degrees Celsius.

29. **(Original)** The method in accordance with claim 28, wherein the step of heat treating is carried out for a period of about 8 hours.

30. **(Withdrawn)** The metal oxide body produced according to the process of claim 18.

31. **(Original)** A method of forming a titania body with nanofibers on at least one surface thereof, the method comprising:

(a) compressing titania particulate at a pressure of about 400 MPa to form a solid body;

(b) sintering the solid body in air at a temperature between about 1,100 and about 1,400 degrees Celsius for about 6 hours; and then

(c) heat treating the solid body in gas containing about 95 percent inert gas and about 5 percent hydrogen with a gas flow rate between about 100 and about 500 milliliters per minute and a gas temperature of about 700 degrees Celsius.

32. **(Original)** The method in accordance with claim 31, wherein the step of sintering is carried out at a temperature of about 1,200 degrees Celsius.

33. **(Original)** The method in accordance with claim 31, wherein the flow rate is at least about 500 milliliters per minute.

34. **(Withdrawn)** The titania body produced according to the process of claim 31.

35. **(Withdrawn)** A titania solid body having a plurality of fibers on the surface thereof, said fibers having a diameter in a range from about 15 nanometers to about 50 nanometers.

36. **(Withdrawn)** The titania solid body in accordance with claim 35, wherein the titania is the rutile phase.

37. **(Withdrawn)** The titania solid body in accordance with claim 35, wherein the solid body contains a plurality of titania crystals.

38. **(Withdrawn)** The titania solid body in accordance with claim 35, further comprising a pair of electrically conductive bodies having opposite electrical polarity mounted to the body.

39. **(Withdrawn)** A sensor comprising:

(a) a titania solid body having a plurality of fibers on the surface thereof, said fibers having diameters in a range between about 15 and about 50 nanometers; and

(b) a resistance measuring means electrically connected to the solid body.